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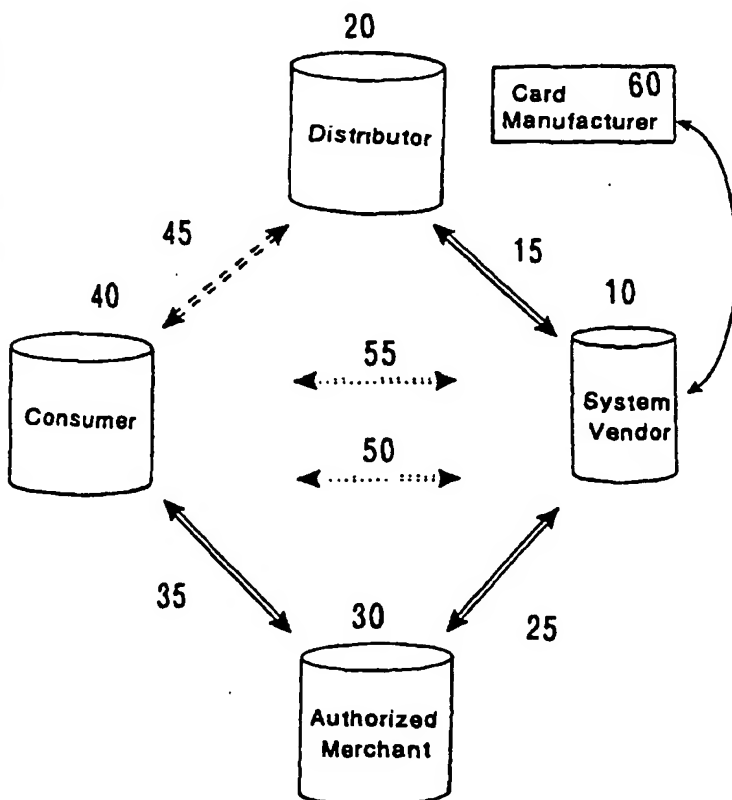
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(54) Title: SYSTEM AND METHOD FOR SECURE ANONYMOUS ONLINE COMMERCIAL TRANSACTIONS



(57) Abstract: A secure system and method for online commercial transactions involving the transfer of funds in exchange for merchandise or services is disclosed where consumers (40) are given an opportunity to execute anonymous on-line transactions. Consumers anonymously pay for merchandise or services with the same convenience as credit card payments, by providing a public code to a participating merchant and a secret code to the System Vendor (10) at the time of the purchase. The public code and secret code may be, in a preferred embodiment, obtained by the consumer upon purchasing, with traditional currency if desired, a card with a specific denominational value. The card, in the preferred embodiment, functions as the vehicle of conveyance of the public and secret codes, with an activation code associated with the card for providing a mechanism of additional security.



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System And Method For Secure Anonymous Online Commercial Transactions

Field of the Invention

This invention relates to the general field of electronic commercial transactions, and more particularly, to a payment system that allows commercial transactions to take place securely online between purchasers who may remain anonymous and merchants.

Background of the Invention

The use of commercial transactions over the Internet (often referred to as "e-commerce") has grown tremendously over the last few years and is expected to continue growing for the foreseeable future. As on-line security measures have improved, consumers have become more comfortable providing credit card as well as other sensitive personal (e.g., financial) information on-line. None-the-less, there are still a number of reasons consumers may not wish to engage in on-line transactions.

Concerns that, for example, less reputable merchants accepting the credit card information may misuse the information or simply not deliver the goods promised, or that sensitive financial information (e.g., a credit card number) may be "intercepted" by third parties during transmission leave many consumers wary of engaging in online transactions where the potential for fraud still exists. On other hand, in most instances, the use of a credit card for on-line transactions allows both the merchant and the credit card company to identify the purchaser and the purchase. In these cases, a consumer may simply wish to conduct a transaction anonymously or, perhaps the consumer does not want a certain transaction to appear on his or her credit card statement.

Additionally, many consumers, for a variety of reasons, do not have credit cards. Some consumers have no credit or bad credit and are unable to obtain

credit cards, while others, minors in particular (who constitute a significant pool of potential consumers), often do not have credit cards by virtue of their age. This pool of consumers without credit cards are thereby precluded from benefiting from on-line transactions.

Presently, most merchants do not accept other available types of electronic payment. Since these present alternative electronic payment systems are not widely accepted, they do not offer an acceptable alternative to credit cards. Additionally, most electronic payment systems do not provide complete anonymity, since the providers of these services will know the identity of the user, even if the merchants participating in these payment methods do not. Further, present electronic payment systems often involve high transaction costs that are usually borne by the purchaser.

For most practical purposes, there are presently no alternatives to the use of credit (or debit) cards for online transactions. Although a few merchants do accept personal checks or other forms of payment by mail, such transactions are inconvenient and provide additional risks to both parties (e.g., if payment is not received by the merchant or a check is not adequately funded) adding delays in order processing and risk of financial loss to what would otherwise be nearly instantaneous and essentially "risk free" consummation of a transaction.

Summary of the Invention

The present invention relates to a secure system and method for online commercial transactions involving the transfer of funds in exchange for merchandise or services. Under the present invention, consumers are given an opportunity to execute anonymous on-line transactions. To this end, consumers anonymously pay for

merchandise or services with the same convenience as credit card payments, by providing a public code to a participating merchant and a secret code to the System Vendor at the time of the purchase. The public code and secret code may be, in a preferred embodiment, obtained by the consumer upon purchasing, with traditional currency if desired, a card with a specific denominational value. The card, in the preferred embodiment, functions as the vehicle of conveyance of the public and secret codes, with an activation code associated with the card for providing a mechanism of additional security.

An object of the invention is to provide an electronic payment system that allows consumers to remain anonymous.

Another object of the invention is to provide an electronic payment system that eliminates or reduces the credit risk of an online transaction.

Yet another object of the invention is to provide an electronic payment system that eliminates or reduces the security risk of an online transaction.

Still another object of the invention is to provide an electronic payment system that offers a convenient way for consumers without credit cards to make online purchases.

A further object of the invention is to provide cards having a public code and a secret code, wherein both codes are associated with an account having a balance that may be transferred to another card having a different public code and secret code.

Brief Description of the Drawings

The foregoing and other features and advantages of the present invention will become more apparent in light of the following detailed description of exemplary embodiments thereof, as illustrated in the accompanying drawings, where:

Figures 1A and 1B show the front and back respectively of an illustrative example of the *ITSCASH*TM transaction card of the preferred embodiment of the present invention.

Figure 2 is a diagram of a network connection between a consumer, distributor, merchants, and system vendor according to the preferred embodiment of the present invention.

Figure 3 is a system level flowchart implemented in the network of Figure 2 according to the preferred embodiment of the present invention.

Figures 4A and 4B is a detailed flowchart of the system level flowchart of Figure 3.

Figure 5 is an illustrative implementation of a user-system in the present invention.

Figure 6 is an illustrative preferred implementation of the System Management Computer in the present invention.

Detailed Description of the Invention

In a preferred embodiment of the present invention, an on-line transaction card, the front and back of which are illustrated in Figures 1A and 1B respectively, is utilized as the vehicle of distribution of the public and secret (or "private") codes of the present invention (as will be discussed in more detail below) where the secret code remains non-disclosed during the distribution process. In this embodiment, the physical card is implemented as the *ITSCASH*TM card available from the assignee of the present invention. Most conveniently, the physical card offers the tangible experience of exchange that resembles the familiar experience of exchanging actual currency. While implemented in this preferred embodiment by means of a

physical transaction "card", the present invention can be implemented in alternative embodiments using alternative vehicles of conveyance of account data (as will be discussed *infra*) to a consumer forgoing the use of an actual physical card, an example of such alternative vehicles is discussed with respect to Figure 2.

As shown in Figure 1A/B, the physical on-line transaction card 1, according to this embodiment, will bear a public code 10 and a secret code 12 on the back of the card (Fig. 1B). The public code corresponds to an account number as will be described with respect to Figures 3 and 4. The secret code is similar to a PIN (Personal Identification Number) and is conveyed to the purchasing Consumer in a hidden format, for example, under a removable coating such as a scratch-away coating. Each public code 10 will have a unique corresponding secret code 12. (The public code and its corresponding secret code are also referred to herein as a "code pair".) Although not critical to the invention, in this embodiment, the card is conveniently manufactured as illustrated in Figure 1A in incremental face value amounts 14 corresponding to values of standard currency bills shown on the face of the card (e.g., \$20, \$50, \$100, etc.).

An activation code (not shown) is utilized as a fraud prevention feature and is intended for use by the retail Distributor of the card. As will be described in detail, the Licensed Distributor will, over a secure link to the System Vendor, send the public code, the corresponding activation code and distributor identifying information to the System Vendor. The activation code can be individual to a particular card (i.e., and therefor the corresponding public code or account) or the activation code can be for a batch or series of cards (corresponding to several or a series of public codes or accounts). The card, in alternative embodiments, bear the activation code, or a part of it, in which case it would preferably be in a non-human readable format (e.g., a bar code

format) because if the activation code is simply reproduced on the card face in easily readable human format, its effectiveness in fraud prevention would be significantly reduced.

In Figure 2 is illustrated a network implementation of the invention system according to the preferred embodiment of the present invention. In a preliminary set up stage, System Vendor 10 will establish a network of Licensed Distributors 20 and Authorized Merchants 30 who, along with a Consumer 40, will form the system environment. Criteria for authorizing or licensing are established by the System Vendor. While no minimum criteria is necessary (with respect to authorization and licensing) to practice the present invention, a System Vendor will normally establish criteria with an eye to the finances and/or reputation of a particular Merchant or Distributor, the types of products a Merchant vends, or a System Vendor can choose alliances which are totally subjectively based. Once these entities are chosen, the network implementation is as follows.

In this implementation, a secure communications link 15 is established between System Vendor 10 and Distributor 20 and secure link 25 between System Vendor 10 and Merchant 30. Consumer 40 is connected to Merchant 30 by a link 35, and to System Vendor 10 by a secure link 55, both, for example, over the Internet. If desired, in an alternative embodiment, a secure or non-secure link (via Internet access) 50 to System Vendor 10 can be offered to Consumer 40 as a customer support device to allow Consumer 40 to, e.g., check account balances, provide recourse in the event of problems with card operation or to report difficulties or problems encountered with participating Distributors or Merchants. There is no requirement, however, that such customer service link 50 be provided in order to practice the invention. For example, in

alternative embodiments, Consumer 40 is not provided with such a communication link 50 to System Vendor 10, but merely a Customer Service Telephone Access Number can be provided (e.g., a toll free "800 number").

Link 45 between Consumer 40 and Distributor 20 is not electronically implemented in the preferred embodiment but is rather a "manual" link similar to any retail store purchase by a consumer- Consumer 40 obtains a transaction card 80 from Distributor 20 by simply going to a Distributor and paying with currency to acquire the card. While in the preferred embodiment the link 45 between Consumer 40 and Distributor 20 is a "traditional merchant-consumer" one, various configurations as can be devised by those skilled in the art consistent with the teachings of the present invention in alternative embodiments where, for example, a Consumer 40 can purchase on-line transaction accounts directly from System Vendor 10 via secure Internet connection 50. This type of configuration would be useful, for example, to allow a credit card bearing Consumer to purchase e.g., 10 public code accounts (each of which would be represented as a transaction card purchase) with the System Vendor sending 10 public code/secret code pairs back to the purchasing Consumer for distribution or use at the purchasing consumer's discretion. The purchasing Consumer could then, for example, give a public/secret code pair to a non-credit card bearing consumer as a "gift certificate" type transaction. While forgoing their anonymity with the System Vendor for the code pair purchase, the purchasing Consumer could none-the-less use the public/secret code pair himself in lieu of a credit card to perform anonymous transactions on line according to the teachings of the present invention.

Alternatively, an electronic communications link 15 between Distributor 20 and System Vendor 10 is not required in all embodiments of the present invention.

All such necessary communications can be performed via conventional methods (telephone for example.)

Illustrated in Figure 3 is a system level flowchart implemented on the network of Figure 2 which flowchart sets out phases of the present invention according to the preferred embodiment.

The several phases of the system of the preferred embodiment of the present invention include: Phase 100- Account Generation , Phase 200- Card Manufacture, Phase 300- Card Distribution, Phase 400- Card Acquisition, Phase 500- Transaction, Phase 600- Clearance, and Phase 700- Delivery.

In Phase 100, the Account Generation Phase, System Vendor 10 creates a unique "account" which are utilized as the transaction vehicle in the present invention. The account is identified by a public code which is essentially an account number. In the preferred embodiment, an online transaction card is generated for that account number and a secret code is generated to correspond to each particular public code or account.

The card which will accordingly be manufactured (see Phase 200) and issued will bear the code pair (i.e., the public code and corresponding secret code). System Vendor 10 also determines the individual or series activation code for an individual card or a series of cards, respectively, and thus for the corresponding respective accounts.

In Phase 200, the Card Manufacture Phase, the online transaction card is manufactured by Card Manufacturer 60 (Figure 2) (which can alternatively be the System Vendor) for each individual account generated in Phase 100 according to specifications established by System Vendor 10.

In Phase 300, the Card Distribution Phase, the transaction card is distributed by System Vendor 10 to Licensed Distributors 20 for retail sale to individual Consumers 40. As described above, the Distributor 20 and System Vendor 10 will typically have an established communication channel between them, which can easily be implemented via the Internet, for activation purposes and for financial reconciliation.

In Phase 400, Card Acquisition, the transaction card is purchased by the Consumer 40. In the preferred embodiment, there is no association between a particular card account and any particular Consumer 40 who may purchase that card as the purchase is made in currency. This acquisition process is similar to that which occurs in the purchase of telephone calling cards with the consumer remains anonymous for all stages of a given transaction. The Distributor 20 must reconcile (financially) with System Vendor 10 for the total value of cards sold. (Note that equally for the alternative embodiment described above where the transaction card account (i.e., a code pair) may be purchased (or "opened") with a credit card, the use of the card will still remain an anonymous transaction as to the actual on-line user of the code pair.)

In Phase 500, Transaction, Consumer 40 will access the desired Authorized Merchants 30 via an Internet connection and close the desired transaction in a secured area established by the Merchant 30. Consumer 40 (electronically) provides the public code to the Merchant 30. Merchant 30 in turn forwards the Consumer 40 provided information (i.e., the public code) along with Merchant data including the amount of a given transaction and data that identifies the Merchant 30 to System Vendor 10 over a secure link to the System Vendor. Consumer 40 will then provide the secret code to the System vendor 10, directly or by means of a software component installed on the merchant secure web server.

In Clearance Phase 600, financial reconciliation between an Authorized Merchant 30 and the System Vendor 10 occurs. System Vendor 10 verifies validity of Merchant information (i.e., participation), authenticity of data, validity of the code pair and balance in the code pair account. System Vendor 10 will transfer requested amounts from Consumer's 40 account with System Vendor 10 to the Merchant's 30 account with System Vendor 10, notifying the Merchant 30 through a secure process with an authorization or validation code for that transaction. Prior to such transfer, transaction fees are deducted by System Vendor 10 from the Consumer's account and/or from Merchant's amount due similarly as is done by conventional credit card services for credit card annuity and purchase discounts.

If the transaction which has been closed is an "irreversible" transaction (i.e., no refunds allowed or a final sale) then System Vendor 10 will transfer funds from the Merchant's account with System Vendor to any account designated by Merchant (e.g., the Merchant's commercial banking account). If, on the other hand, the transaction is "reversible" (i.e., it has not matured to the level of irreversible), the System Vendor will hold the funds in the Merchant's account until the transaction becomes irreversible before transferring funds to the account designated by Merchant.

In Phase 700, Delivery of Goods, the Merchant will arrange to deliver the purchased goods in appropriate fashion- either over the Internet or by shipping avenues.

Referring now to Figures 4A/4B, the phases of the preferred embodiment enumerated in Figure 3, are illustrated in detail. The flowchart depicted represents a detailed implementation of the online commercial transaction system according to the preferred embodiment of the present invention. Different functions are assigned to

Consumer 40, Authorized Merchant 30, Licensed Distributor 20, Card Manufacturer 60 and System Vendor/Clearinghouse 10 for the various phases as shown.

In Account Generation Phase 100, System Vendor/Clearinghouse 10 generates 102 account numbers (i.e., public codes) and corresponding secret codes. Transaction cards are assigned to or associated with 104 the code pairs (public and secret) and activation codes.

In phase 200, transaction cards are manufactured 202 accordingly as specified by System Vendor with public and secret codes that correspond to each account. Preferably, the manufacture of cards is out-sourced to a Card manufacturer 60, however, manufacture can be performed by System Vendor 10 as well. In the preferred embodiment of the invention, the secret codes are covered by an opaque removable layer (e.g., a scratch-off layer) which is to be removed by the Consumer after purchase and prior to use to reveal the secret code.

In phase 300, System Vendor 10 distributes 302 the cards to Licensed Distributors 20. Distributor 20 requests card activation 304 from the System Vendor 10 by transmitting the public code and the activation code along with data identifying the Distributor. Upon verification of the information received, System Vendor 10 will activate 306 the corresponding card or cards.

In Card Acquisition phase 400, Consumer 40 acquires 402 a transaction card by paying to the Licensed Distributor 20 the face value amount on the card. Payment may be made in cash or by other payment method. Upon receipt of payment, Licensed Distributor 20 deposits 404 the payment equivalent amount into the account associated with the card by sending the payment amount to the System Vendor 10 less

commission. Once Consumer 40 has physical possession of the card, Consumer 40 removes 406 the opaque protective layer, revealing the secret code printed on the card.

With reference now to Figure 4B, in Transaction phase 500, after deciding on a particular transaction with an Authorized Merchant 30, Consumer 40 closes the desired transaction by transmitting 502 the public code associated with the card to the Authorized Merchant 30.

Authorized Merchant 30 forwards 504 (directly or through the Consumer 40), in a secure form, transaction information to System Vendor 10 which includes the public code along with the amount to be deducted from the account associated with the card. The Consumer 40, then provides 508 the secret code to the System Vendor 10 via secure link 55, and thereby authorizes Merchant 30 to deduct a certain amount from the card account. System Vendor 10 compares the public and secret codes and validates 510 the transaction, creating a validation code (which can be a numeric code or a simple yes/no approval or rejection) if both codes are associated with an account having a balance greater than the amount to be deducted. (Multiple cards can be used by similar process where the purchase price exceeds the face value of a given card.) System Vendor 10 returns 512 validation code to Authorized Merchant 30.

In Clearance phase 600, System Vendor 10 transfers 610 credit to the Merchant's account when a transaction has become "irreversible" by deducting the authorized amount from the account associated with the code pair and crediting the account of the Authorized Merchant 30 with the authorized amount minus a transaction fee. The Authorized Merchant 30 and the System Vendor 10 will have an agreed upon protocol for determining when a transaction is deemed "irreversible". For example, the System Vendor can agree with a particular Authorized Merchant that transactions will

be deemed "irreversible" after 30 days while the System Vendor can agree with another Merchant that the transaction is deemed irreversible immediately. The irreversibility criteria can be established, for example, by the type of goods or service provided by the Merchant depending upon when delivery of the goods or service is effected to the client. System Vendor 10 effects payment 612 to Authorized Merchant 30 of irreversible transaction funds either periodically at predetermined time intervals or when an Authorized Merchant's account reaches a predetermined level. Pending irreversibility of a transaction, money is held by System Vendor on account for the particular Authorized Merchant.

Alternatively, an Authorized Merchant can (electronically) notify the System Vendor of a transaction becoming irreversible, thus allowing the System Vendor to release funds upon notification.

In Delivery phase 700, after having received 512 the validation code from the System Vendor 10, Authorized Merchant 30 delivers 702 the goods or, alternatively, provides the service, being purchased by Consumer 40. Consumer 40 receives 704 the goods delivered 702 by Authorized Merchant 30.

With reference to Figure 5, there is shown a block diagram of user system 530. The end-user communicates with other connected members of the data network illustrated in Figure 2 via end-user computer 550. In the preferred embodiment, end-user computer 550 is implemented as a conventional personal computer having: a CPU 560, input device 588 (e.g. a keyboard and/or mouse), input output capabilities 580 (including components known in the art to effect connection of and to peripheral devices including modem 581, input device (most commonly a keyboard) 588 and video monitor 585), memory 570 (including RAM 571, ROM 572

and data storage device 573) and bus 540. Data storage device 573 may be implemented as, for example, a hard drive as is known and/or a floppy or CD-ROM drive for reading from/writing to removable media (e.g., a floppy disk or CD-ROM). End-user computer 550 communicates with the other members of the system network via communications link 590 through modem 581. It will be understood that communications link 590 can represent the respective communications links 15, 25, 35 50 and 55 illustrated in Figure 2. While shown as being implemented via modem 581, in alternative embodiments, other communication devices such as a network card or direct Internet connection as are known can be utilized to enable direct communications as will be understood.

While implementation for any of the systems of the individual members of the system network of the preferred embodiment (System Vendor 10, Licensed Distributor 20, Authorized Merchant 30 and Consumer 40) can be implemented using the user system of Figure 5, it will be understood by those skilled in the art that hardware requirements may vary and each member may implement variations of the illustrative user system of Figure 5 as required to meet their individual requirements. For example, while the System Vendor system may in fact be implemented as in the illustrative embodiment of Figure 5, an implementation such as illustrated in Figure 6 may be preferable.

Figure 6 depicts a preferable embodiment of the System Management Computer 650 which would be deployed by System Vendor 10. This System manages communications with System Vendor 10 by Licensed Distributor 20, Authorized Merchant 30 and Consumer 40 via communications link 690 (the respective communications links 15, 25, 50 (Figure 2)). System Management Computer 650 can

be implemented as a conventional mainframe computer, workstation, or personal computer depending upon the throughput requirements (which will likely be measured simply by the volume of transactions expected to be handled by the system). System Management Computer 650 includes CPU 660, communications port 681, secure processor 695, code generator 697, RAM 671, ROM 672, data bus 640, and data storage device 670. For high volume transaction processing a more powerful microprocessor with a 32-bit data bus such as the Intel Pentium® series processors or a RISK architecture microprocessor with a 64-bit data bus may be used as CPU 660. Data storage device 670 may be, e.g., an array of hard disk drives, a conventional hard drive as is known and/or a floppy or CD-ROM drive for reading from/writing to removable media (e.g., a floppy disk or CD-ROM) and is used to store the various databases used to implement the present invention, such as an Account database 673 (for tracking the code pairs, activation codes and account balances); Merchant database 674 which contains Merchant related data (e.g., Merchant accounts including Merchant identification information); and Distributor database 675 (e.g., card log for tracking card distribution). It will be understood by those skilled in the art that each of the individual databases may be relational to one another, or that all of them may be combined into a single database. Code generator 697 is used for generating public, secret and activation codes. Secure processor 695 is used for secure communications between System Vendor 10 and Authorized Merchant 30.

It will further be understood by those skilled in the art that alternative system architectures, for example, which use portable devices such as the Palm Pilot®, can be equally implemented in application of the principles and features of the present invention.

The foregoing description was presented to enable any person skilled in the art to make and use the invention. Descriptions of specific applications are provided only as examples. Variations and/or modifications to the preferred embodiments will be readily apparent to those skilled in the art, and the general principals defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

Claims

1. A method for conducting anonymous on-line transactions comprising the steps of:
generation by a system vendor of a code pair, including a public code and a secret code, corresponding to a user account held with the system vendor;
allocation of the code pair to a consumer, the proceeds of which allocation are used to fund the user account; and
effecting an anonymous on-line transaction between the consumer and a merchant where the public code is communicated from the consumer to the merchant and the secret code from the consumer to the system vendor.
2. The method of claim 1 further comprising the steps of:
communication by the merchant of the public code and the charge amount of the anonymous on-line transaction to the system vendor for reconciliation against the corresponding user account;
communication by the consumer of the secret code to the system vendor;
verification by the system vendor of sufficient balance in the user account to cover the charge amount;
confirmation by the system vendor to the merchant of the sufficient balance;
transfer by the system vendor of the charge amount to a merchant account held with the system vendor; and
disposition by the system vendor of the charge amount as determined by the merchant.
3. The method of claim 1 wherein the step of allocation of the code pair to a consumer includes:
generation by the system vendor of a transaction card for each code pair, said transaction card bearing the code pair; and
distribution of the transaction card to the consumer.
4. The method of claim 3 wherein the step of distribution of the transaction card to the consumer is performed by an intermediary.

5. The method of claim 1 further including the steps of:
 - generating at least one activation code associated with said code pair; and
 - activating said code pair by communicating said activation code to said system vendor.
6. The method of claim 2 wherein said confirmation is via a validation code communicated by said system vendor to said merchant.
7. The method of claim 2 wherein said disposition is to an external account specified by the merchant.
8. The method of claim 2 wherein, prior to the step of disposition by the system vendor of the charge amount as determined by the merchant, the merchant notifies the system vendor that the on-line transaction has become irreversible.
9. A system for conducting anonymous on-line transactions between a consumer, a merchant and a system vendor, the system comprising:
 - means for generating a code pair, including a public code and a secret code, corresponding to a user account held with the system vendor;
 - means for allocating the code pair to the consumer, the proceeds of which allocation are used to fund the user account; and
 - means for effecting an anonymous on-line transaction between the consumer and the merchant where said public code is communicated from the consumer to the merchant and the secret code from the consumer to the system vendor.
10. The system of claim 9 further comprising:
 - means for communicating the public code and the charge amount of the anonymous on-line transaction by the merchant to the system vendor for reconciliation against the corresponding user account;
 - means for communication of the secret code by the consumer to the system vendor;
 - means for verifying by the system vendor a sufficient balance in the user account to cover the charge amount;

means for confirming by the system vendor to the merchant of the sufficient balance;

means for transferring by the system vendor of the charge amount to a merchant account held with the system vendor; and

means for disposing by the system vendor of the charge amount as determined by the merchant.

11. The system of claim 10 further comprising means for notifying the system vendor that the on-line transaction has become irreversible.

12. The system of claim 9 wherein the means for allocating the code pair to a consumer includes:

means for generating by the system vendor a transaction card for each code pair, said transaction card bearing the code pair; and

means for distributing the transaction card to the consumer.

13 The system of claim 12 herein the means for distributing the transaction card to the consumer is an intermediary.

14. The system of claim 9 further including:

means for generating at least one activation code associated with said code pair; and

means for activating said code pair by communicating said activation code or codes to said system vendor.

15. The system of claim 9 wherein the means for communication of the secret code by the consumer to the system vendor is by means of a secure link.

16. The system of claim 15 further including second means for communication by the consumer to the system vendor.

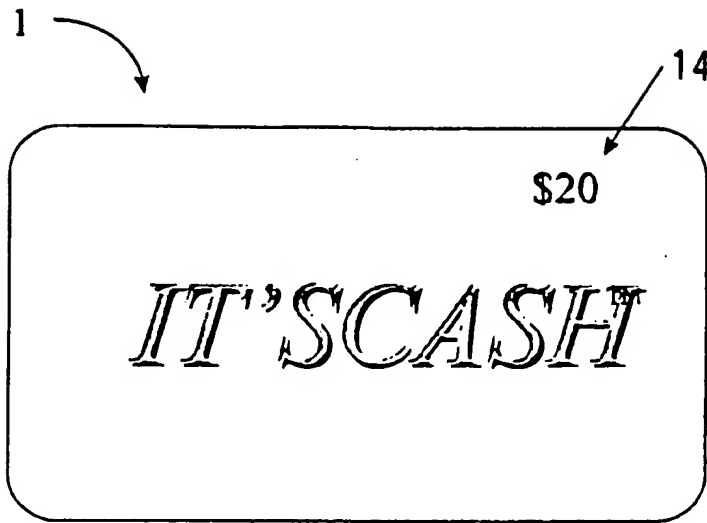


FIG. 1A

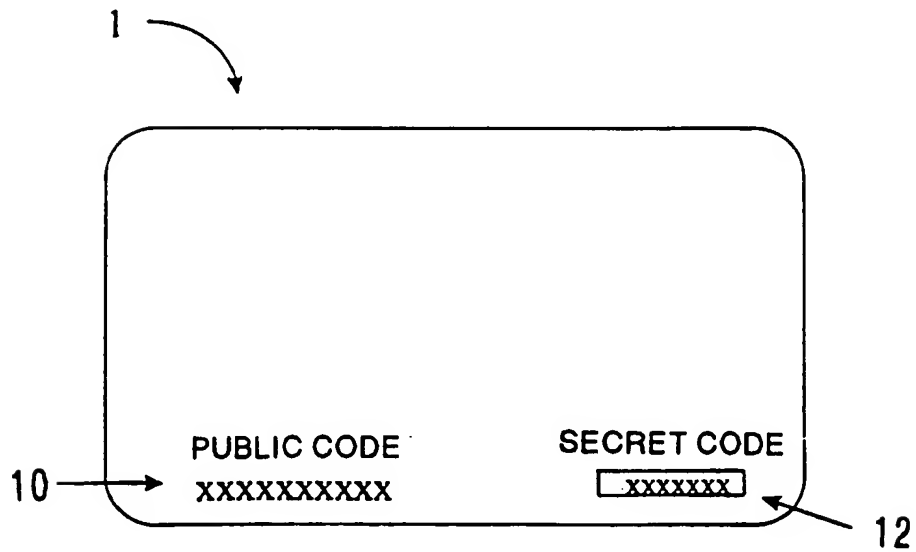


FIG. 1B

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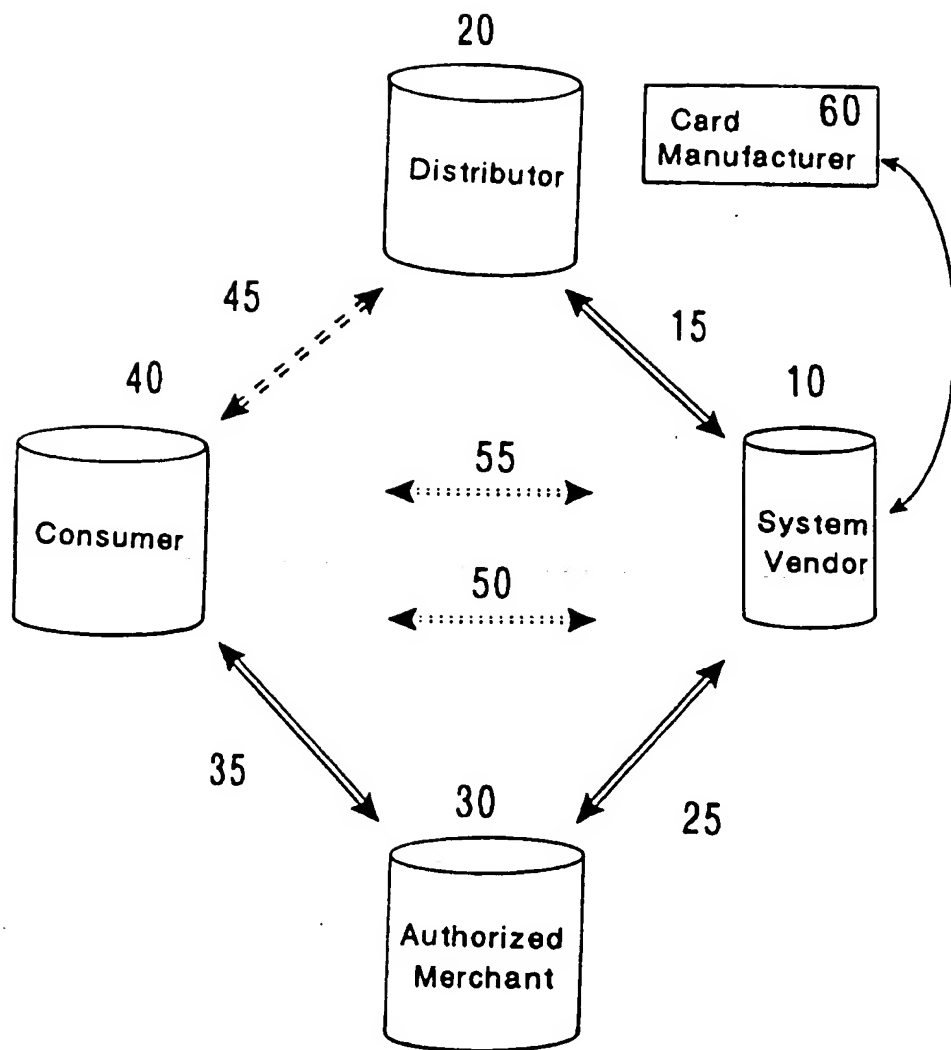


FIG.2

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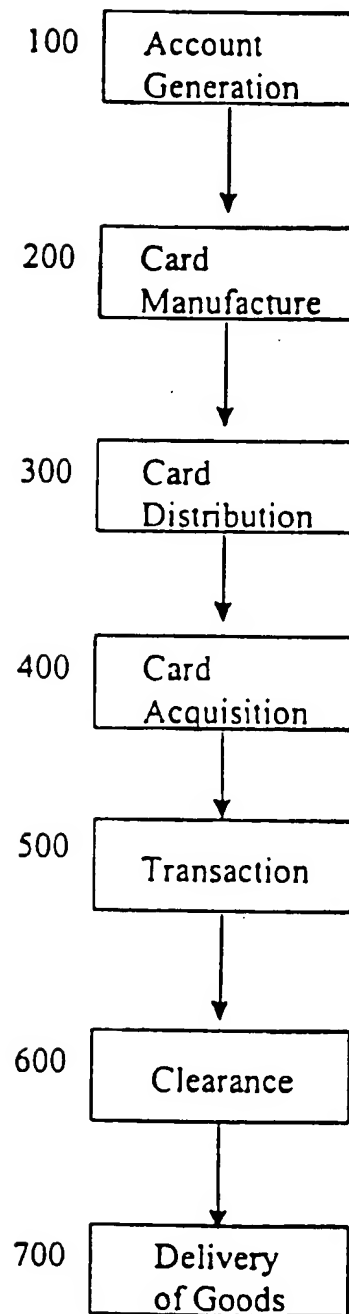


FIG.3

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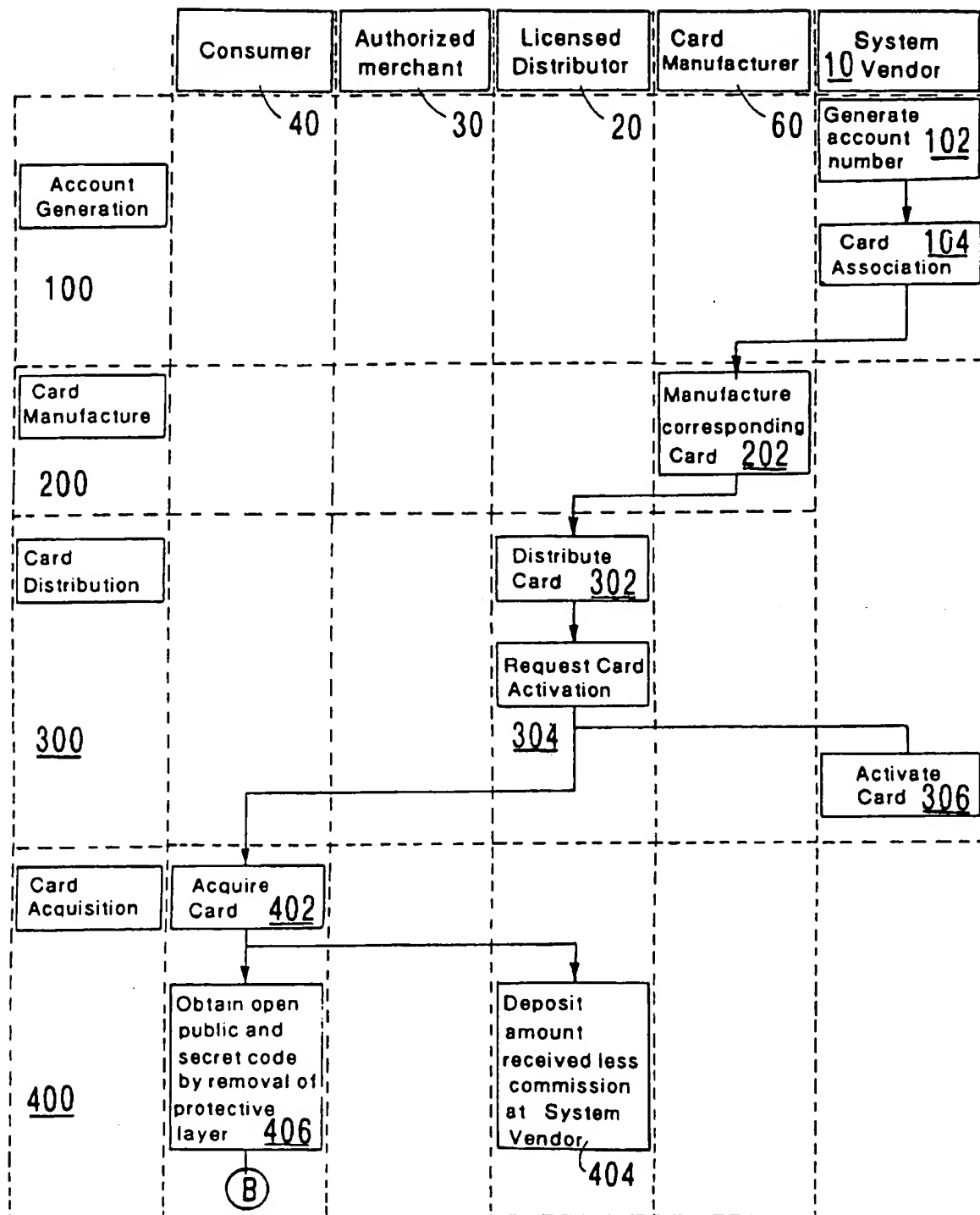


FIG.4A

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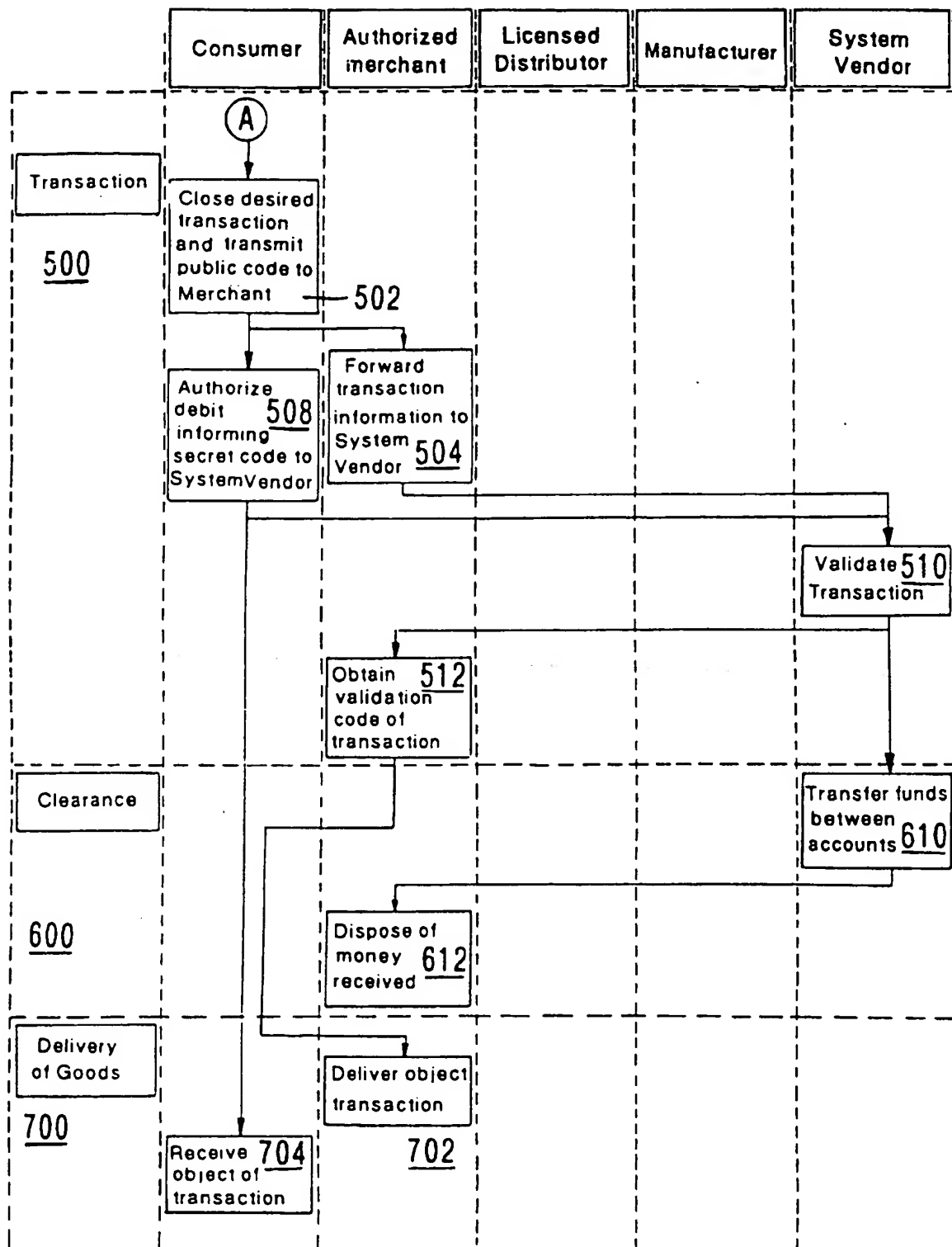


FIG.4B

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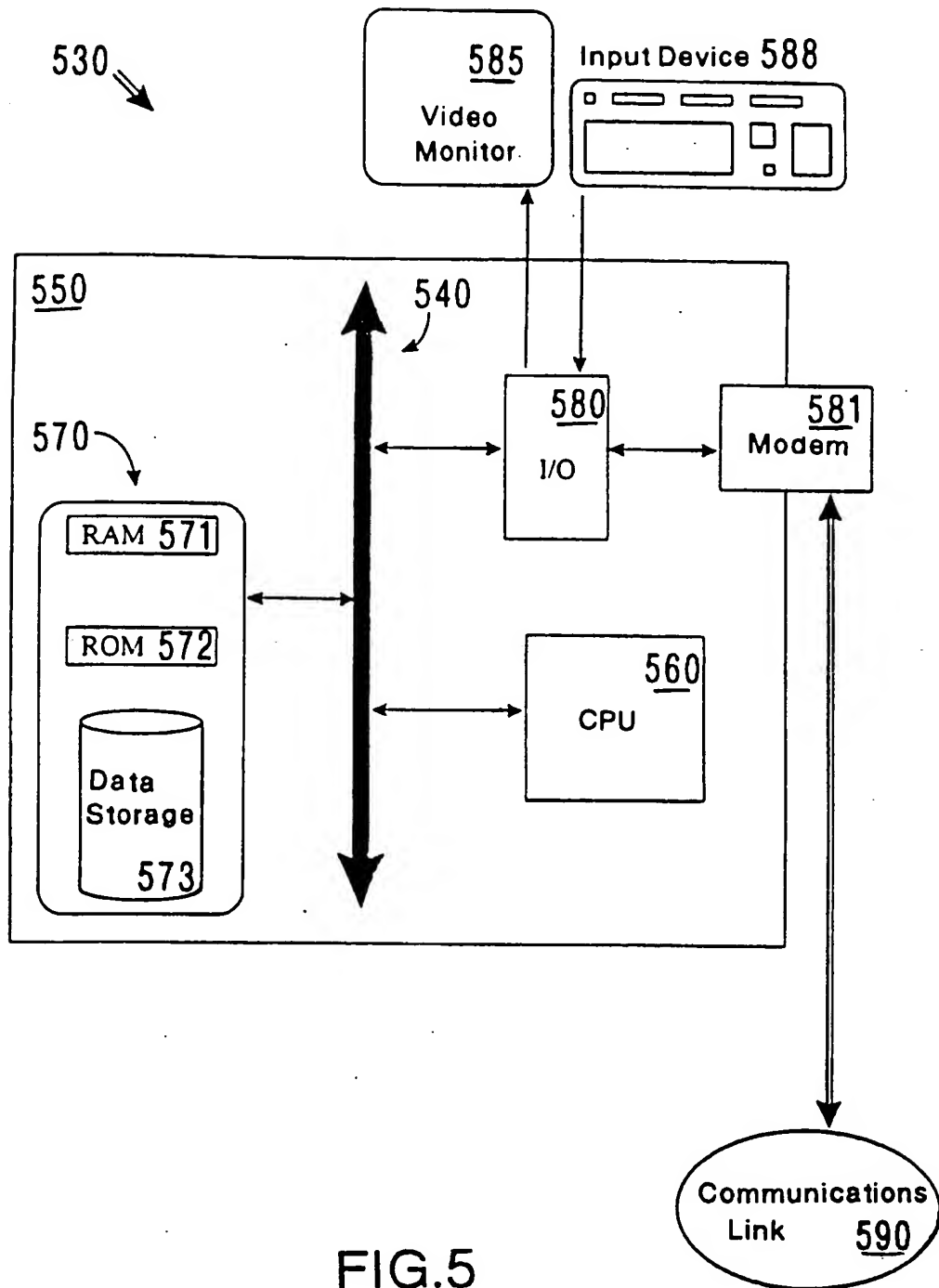
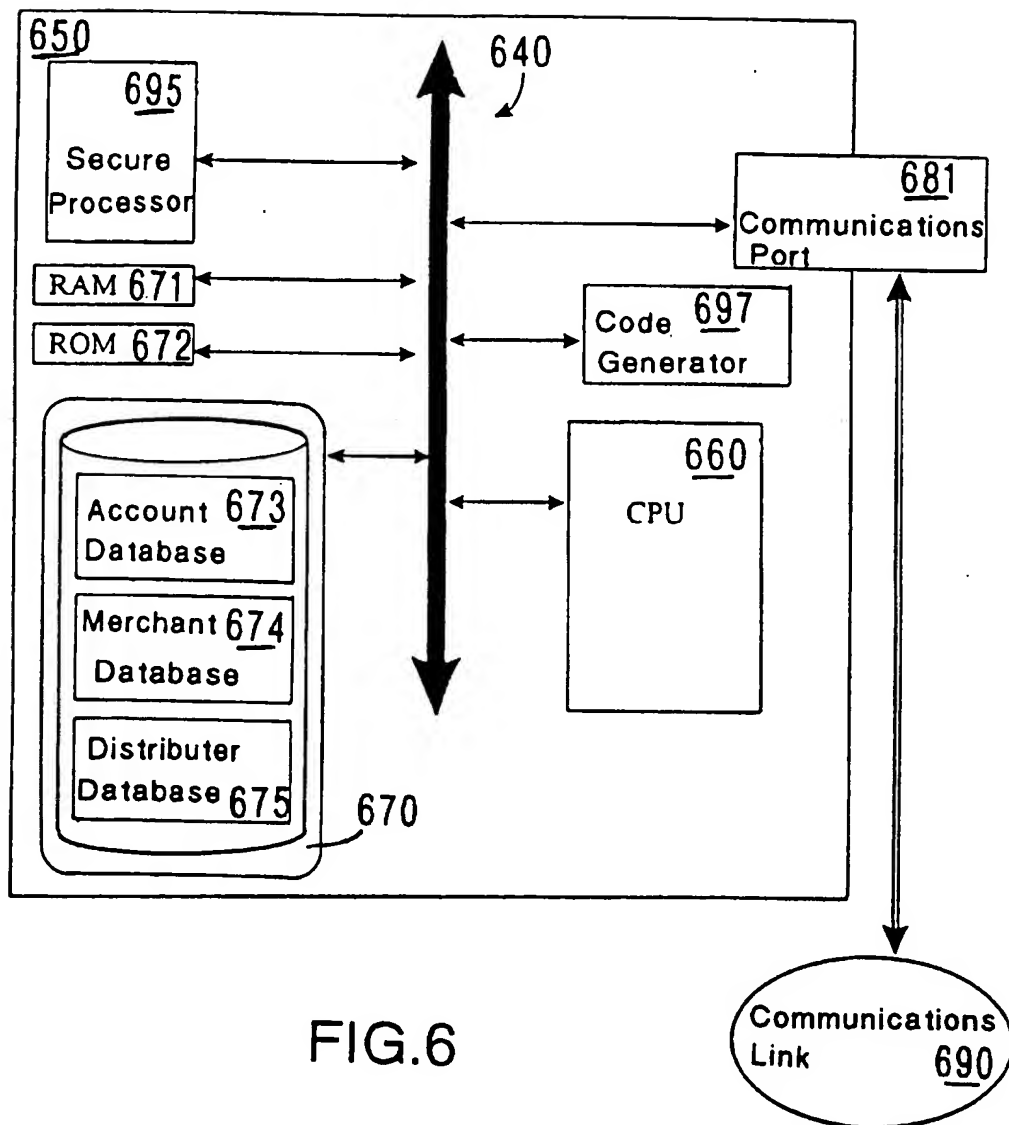


FIG.5

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/30832**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : G06F 17/30
 US CL : 705/18, 26, 53, 72, 74, 75, 76, 41, 44
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/18, 26, 53, 72, 74, 75, 76, 41, 44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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| Y | Kutler, J. Currency of the Internet realm? so far, its plastic. (credit card payments on the Internet), American Banker, v160, n182, p1(2), September 21, 1995. | 1-16 |
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☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

| | |
|---|--|
| * Special categories of cited documents: | "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
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| "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "&" document member of the same patent family |
| "O" document referring to an oral disclosure, use, exhibition or other means | |
| "P" document published prior to the international filing date but later than the priority date claimed | |

Date of the actual completion of the international search

20 DECEMBER 2000

Date of mailing of the international search report

25 JAN 2001

Name and mailing address of the ISA/US
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/30832

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
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